Notice of Allowability	Application No.	Applicant(s)	
	09/929,356	YANAGINO ET AL.	
	Examiner	Art Unit	
	Susanna M. Diaz	3694	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Examiner's amendment agreed to on November 20, 2006*.

2. ☒ The allowed claim(s) is/are *1,2,7,9-13,18 and 20-22*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Susanna Diaz
SUSANNA M. DIAZ
PRIMARY EXAMINER
AU 3694

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Rhonda Barton (Reg. No. 47,271) on November 20, 2006.

The application has been amended as follows:

1. (Currently Amended) A method of forecasting future orders of parts for products to be sold to customers, comprising the steps of:

determining a time-course record of orders with respect to each part and extracting low-order-rate parts whose order records show an order rate to have fallen below a predetermined level;

determining from each such order record at least one parameter indicating a characteristic of orders after the order rate fell below the predetermined level, classifying the extracted low-order-rate parts into multiple categories and using the parameter indicating the characteristic of orders to calculate for each of the multiple categories an order occurrence probability distribution;

carrying out Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period; and

forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during the predetermined period and outputting the future number of orders of the low-order rate parts,

wherein the parameter indicating the characteristic of orders is a ratio of number of orders, such that the number of orders occurred after orders were non-existent for a fixed time divided by the number of orders immediately before the orders were non-existent for the fixed time.

5-6 (Canceled)

7. (Currently Amended) A method of forecasting future orders of parts for products to be sold to customers, comprising the steps of:

determining a time-course record of orders with respect to each part and extracting low-order-rate parts whose order records show an order rate to have fallen below a predetermined level;

determining from each such order record an order occurrence probability distribution as a function of time and an order occurrence probability distribution as a function of a ratio of number of orders, such that the number of orders occurred after orders were non-existent for a fixed time divided by the number of orders immediately before the orders were non-existent for the fixed time;

carrying out Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period; and

forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during the predetermined period and outputting the future number of orders of the low-order rate parts.

8. (Canceled)

12. (Currently Amended) A system for forecasting future orders of parts for products to be sold to customers, comprising:

time-course order record determining means for determining a time-course record of orders with respect to each part and extracting low-order-rate parts whose order records show an order rate to have fallen below a predetermined level;

order occurrence probability distribution determining means for determining from each such order record at least one parameter indicating a characteristic of orders after the order rate fell below the predetermined level, and for classifying the extracted low order-rate parts into multiple categories and using the parameter indicating the characteristic of orders to calculate for each of the multiple categories an order occurrence probability distribution;

Monte Carlo simulation means for carrying out Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period; and

forecasting means for forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during the predetermined period and outputting the future number of orders of

the low-order rate parts,

wherein the parameter indicating the characteristic of orders is a ratio of number of orders, such that the number of orders occurred after orders were non-existent for a fixed time divided by the number of orders immediately before the orders were non-existent for the fixed time.

16- 17 (Canceled)

18. (Currently Amended) A system for forecasting future orders of parts for products to be sold to customers, comprising:

time-course order record determining means for determining a time-course record of orders with respect to each part and extracting low-order-rate parts whose order records show an order rate to have fallen below a predetermined level;

order occurrence probability distribution determining means for determining from each such order record an order occurrence probability distribution as a function of time and an order occurrence probability distribution as a function of a ratio of number of orders, such that the number of orders occurred after orders were non-existent for a fixed time divided by the number of orders immediately before the orders were non-existent for the fixed time;

Monte Carlo simulation means for carrying out Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period; and

forecasting means for forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of

orders during the predetermined period and outputting the future number of orders of the low-order rate parts.

19. (Canceled)

Reasons for Allowance

2. Claims 1, 2, 7, 9-13, 18, and 20-22 are allowed.

3. The following is an examiner's statement of reasons for allowance:

McConnell (US 2001/0049690) discloses a system that detects when the velocity of sales of items has dropped below a specified threshold. Item sales patterns are analyzed in relation to various factors to forecast future sales of the item. Sales predictions are also made based on probability distributions. Price ("How to Prepare Inventory Forecasts for Very Low Demand Items") addresses the use of Monte Carlo simulation in conjunction with a Poisson distribution pattern to compare forecasting methods for very low demand items. Neither McConnell nor Price discloses or suggests that a determined characteristic of orders after the order rate fell below a predetermined level is a ratio of number of orders such that the number of orders occurred after orders were non-existent for a fixed time divided by the number of orders immediately before the orders were non-existent for the fixed time, as recited in the claimed invention. While Caveney (U.S. Patent No. 5,608,621) controls the number of units of parts maintained in an inventory based on the ratio of an expected number of parts that will be needed in relation to the stored number of parts in inventory, Caveney still fails to

utilize a ratio of number of orders such that the number of orders occurred after orders were non-existent for a fixed time divided by the number of orders immediately before the orders were non-existent for the fixed time, as required by the claimed invention. Consequently, claims 1, 2, 7, 9-13, 18, and 20-22 (which recite, in a Monte Carlo based forecasting system, that a determined characteristic of orders after the order rate fell below a predetermined level is a ratio of number of orders such that the number of orders occurred after orders were non-existent for a fixed time divided by the number of orders immediately before the orders were non-existent for the fixed time) are deemed to be allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (571) 272-6733. The examiner can normally be reached on Monday-Friday, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on (571) 272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Susanna M. Diaz
Primary Examiner
Art Unit 3694

November 20, 2006